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ABSTRACT

A study investigated the relationships among the social perception processes, person-centered communicative strategies, and the mediating factors of empathy and context-relevant beliefs of physicians. Subjects, 46 first-year medical students, were first interviewed on a series of structured tasks that assessed their constructs for perceiving people and the "person-centeredness" of their communication in situations frequently faced by physicians. After the interviews, the subjects completed a mail questionnaire designed to assess their attitudes about the medical interview and their levels of empathic motivation. In the final phase of the study, each subject interviewed a recently admitted patient at a university hospital to isolate the patient's present condition and to find out information about his or her medical history, the medical history of the patient's family, current treatment, and life style. These results showed that person-centered communication was consistently related to medical students' ability to construe the dispositional and motivational characteristics of their patients. It appeared that when the physician's goal was to regulate, advise, or solicit information from a patient, those with more sophisticated interpersonal construct systems were more likely to conceive the patient's perspective and to use it in formulating patient-centered communication strategies. (FL)

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**SOCIAL PERCEPTION PROCESSES AND PERSON-
CENTERED COMMUNICATION IN THE MEDICAL SETTING:
RESEARCH FINDINGS AND IMPLICATIONS FOR MEDICAL
EDUCATION**

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Persons both inside and outside of the medical profession have come to realize the importance of clear, efficient and interpersonally effective communication between physicians and their patients (e.g., Bennett, 1976; Berger, 1977; Harlem, 1977; Ley & Spelman, 1967). Researchers have begun to document the impact of communication skills on patient compliance and satisfaction with a physician's medical advice (e.g., Korsch, Freeman & Negrete, 1971; Korsch, Gozzi & Francis, 1968). Other researchers have emphasized the importance of communication skills in alleviating the general perception that medical encounters lack "warmth and understanding" (e.g., Fletcher, 1980; Koos, 1955). Because of these findings scholars such as Sanson-Fisher and Maguire advocate communication skills as an "integral part of the medical education" (Sanson-Fisher & Maguire, 1980, p. 523).

As part of the broad concern with the quality of physician-patient interactions, researchers have begun to identify specific skills necessary for effective physician-patient communication. Diverse skills may be related to three general objectives identified by communication theorists to reside in any speaking situation: a task objective (i.e., reaching a desired goal); a relational objective (i.e., negotiating an agreed upon relationship); and identity objectives (i.e., seeking a desired identity for each interactant) (Clark & Delia, 1979). Medical communication researchers have discovered that accomplishment of a

physician's task objective such as obtaining diagnoses and securing patient compliance is dependent upon the relationship and identity the physician has created with his or her patient. Specific skills such as expressing empathy and clarifying patient cues have been found to relate positively to accuracy of diagnoses (Marks, Goldberg & Hillier, 1979). Moreover, researchers have found that various communication skills affect the outcome of medical procedures. For example, studies show that patients who are provided an opportunity to discuss their feelings and concerns and who are given information and reassurance about upcoming procedures and their attendant sensations require less medication, feel less distress and have easier post-operative recoveries (Visintainer & Wolfer, 1975; Langer, Janis & Wolfer, 1975; Schmitt & Wooldridge, 1973; Janis, 1958).

Physicians' communicative behaviors also affect the likelihood that patients will comply with medical advice (for example see the reviews of Marston, 1970; Sackett & Haynes, 1976). Research suggests compliance is greater when physicians appear friendly and caring rather than businesslike, a demeanor apparently facilitated by physicians discussing non-medical matters and experiences similar to those of patients, granting patients freedom of choice in what to discuss, giving feedback, discussing expectations for treatment, actively involving patients in the treatment process and establishing a continuing relationship with patients (e.g., Charney et al., 1967; Davis, 1966; 1968; 1971).

In addition to greater patient compliance, physicians' communicative

skills have also been demonstrated to affect patient satisfaction with medical care (Thompson & Anderson, 1982). For example, Fisher (1971) found that more satisfied patients report that "doctors tell you enough about your sickness"; "they take enough interest in you"; and "they give you a chance to tell them exactly what the trouble is". Similarly, Korsch and her associates (1968) found that mothers' satisfaction is increased when their physicians encourage them to discuss their concerns.

In light of this research it seems that physicians who lack effective interpersonal skills may jeopardize the medical care process. Several researchers have found, for example, that patient dissatisfaction with impersonal medical care is negatively related to compliance with medical advice, keeping of appointments, use of check-ups, selection of physicians, and even the instigation of malpractice suits (Blum, 1969; Vaccarino, 1977; Mechanic, 1978; Ware, Snyder & Wright, 1979). Unfortunately, researchers have found that fourth year medical students tend to be significantly less supportive, less facilitative, less concerned about patients' emotional problems and less skilled in history-taking than younger medical students (Helfer & Ealy, 1972; Scott, Donnelly & Hess, 1975). Maguire and Rutter (1976) also found inadequate history-taking skills in fifty medical students.

Since interpersonal skills seem crucial to effective physician-patient interactions, it is thus not surprising to see the growing interest in teaching interpersonally-oriented interviewing skills in medical settings (e.g., Bird, 1973; Enelow & Swisher, 1972; Engel

& Morgan, 1973; Stevenson, 1971). Effective interviewing strategies include listening carefully to the patient, reassuring the patient, developing empathy, verbally inviting expression of the patient's concerns, avoiding assumptions by discussing them with the patient, displaying nonpossessive warmth and genuineness, etc. (Helfer, & Hess, 1970; Juneck, Burra and Leichner, 1979; Kauss et al. 1980; Truax & Carkhuff, 1967). Several medical educators have reported instructional programs designed to teach these medical interviewing skills (e.g., Cassata, Monroe & Clements, 1977; Ward & Stein, 1975; Yalom, 1975).

Aside from the development of instructional programs, there has been little research on the processes underlying communication between physicians and patients. We are concerned that the medical behavior literature offers very little in answer to such questions as: "What are the personality and background qualities that are associated with the natural development of effective and ineffective communicative styles?" The present study begins to answer this question.

A number of researchers have shown that the ability to communicate in ways sensitive to the needs and feelings of listeners is partially dependent upon various social perception processes (e.g., Clark & Delia, 1976; Delia, Kline & Burleson, 1979). For example, research conducted within the constructivist perspective has examined the relationships between social perception processes and communicative strategies (e.g., Delia, O'Keefe & O'Keefe, 1982). Within the constructivist perspective social perception is conceived to occur through a system of bi-polar dimensions called "constructs" (Delia,

1977). Constructivism posits that with age and social experience an individual's interpersonal construct system becomes more differentiated, abstract and organized (e.g., Crockett, 1965; Scarlett, Press & Crockett, 1971). Research conducted within the constructivist framework has demonstrated that individuals with relatively more complex systems of interpersonal constructs tend to erect more organized, stable and psychologically centered impressions of others than individuals whose interpersonal construct systems are relatively non-complex (e.g., Delia, Clark & Switzer, 1975). Since it is the impression one forms of another that serves as the basis for message adaptation, individuals who form more differentiated impressions should produce messages that are better tailored to a listener's perspective. This supposition has been supported across a variety of communication tasks calling upon individuals to persuade others or to deal with others' distressed feelings (e.g., Clark & Delia, 1977; Delia, Kline & Burleson, 1979; O'Keefe & Delia, 1979).

For example, Applegate (1978; 1980a; 1980b) investigated the interpersonal perceptions and communicative behaviors of parents, day care teachers, student teachers, college students and children. From structured interviews and naturalistic observation Applegate found that those persons with more elaborated interpersonal construct systems were more likely to use communicative strategies that were sensitive to listeners' specific beliefs and feelings. In separate studies, Borden (1979) and Burleson (1979; 1981) found similar support for the relationship between interpersonal construct system development

and listener-sensitivity in contexts requiring recognition and response to diverse affective-states in others. In addition to an elaborated construct system, these researchers have also found that the ability to engage in person-centered communication is also related to motivational factors (Borden, 1979; Burleson, 1981; Kline, 1981). That is, in order to engage in sensitive communication, persons must not only possess a well developed interpersonal construct system but also be motivated to adapt to the specific needs and beliefs of listeners.

The foregoing studies employed systems for message analysis built off a distinction introduced by Bernstein between "person-centered" and "position-centered" speech (Bernstein, 1971; 1974). These researchers argued that individuals who form differentiated and individuated conceptions of others tend to engage in "person-centered" communication, that is, communication which focuses on the unique qualities of others. Person-centered speech assumes that the motivations, intentions and feelings of individuals are unique; consequently, authority distinctions must rely on the recognition and elaboration of individual differences, and behavioral norms must be adjusted to the demands of the particular situation (Applegate & Delia, 1980, p. 253). By contrast, "position-centered" speech emanates from the tacitly held assumption that individuals' identities and meaning of their behavior can be understood in terms of social and institutional roles, and that both parties accept these

roles, the authority distinctions inhering in them and the behavioral norms operating within the role-based relationship (Applegate & Delia, 1980, p. 254). Consequently, position-centered communicators are less likely than their person-centered counterparts to construe a listener's internal states and then integrate such information with their own communicative goals and the normative demands of the situation.

The present study extends this analysis of individual differences in communicative behavior to the medical setting. It should be noted that previous work on person-centered and position-centered communication is not straight-forwardly applicable to this domain, for a physician's communicative work encompasses more than persuading patients or dealing with their feelings. A major purpose of the clinical interview is to obtain information from patients for diagnosis and to disseminate information to patients' regarding treatment. Thus, among other things, the present study was designed to permit extension of the analysis of person- and position-centered communication to the information gathering function of communication. However, the study is primarily aimed at advancing understanding of the interpersonal perception processes underlying the spontaneous adoption of one communicative orientation or another.

As we have just noted, the clinical interview is an indispensable tool of medical practice, for it is in the interview that a physician obtains information critical to diagnosis and treatment. A successful interview, however, also requires that the physician express the warmth, concern and sensitivity necessary to create a trusting

relationship with the patient. Both of these communicative goals must be accomplished within a physician's time and role constraints. These constraints may explain, at least partially, medical practitioners' tendencies to rely upon institutionalized modes of conduct with patients. The institutionally sedimented physician-patient relationship is one that fixes the patient role as cooperative and passive and the doctor role as authoritative and active. The physician's expertise is seen to give the physician the right to assume that the patient's concerns are essentially about matters of clinical treatment. The authority of the physician is seen to establish the right to expect patients' compliance with medical advice. Thus to take a position-centered orientation in a physician-patient relationship is to use role-defined attributes and power differences in defining the meaning of medical encounters.¹

To take a person-centered orientation, therefore, a physician must conceptualize the patient and his or her own role in non-institutionalized, individuated ways. The physician must perceive the patient as having unique feelings, motivations and beliefs that affect significantly the character of interaction. Moreover, the physician must conceptualize his or her own interactional roles as requiring variations in approach, flexibility in accommodation to emergent circumstances, and the pursuit of interpersonal as well as instrumental objectives. Taking a person-centered orientation will at the very least lead a physician to learn his or her patient's needs, attitudes and feelings and use such information in diagnosis

and treatment. Presumably, the physician's capacity to form such perceptions is facilitated by various cognitive capacities, including most directly the development of cognitive bases that allow differentiation among persons' psychological characteristics. Thus our research was directed at identifying abilities and use of person-centered communicative strategies in interactions with patients.

The following are the research questions posed in this study:

1. Are medical students' social perception processes (i.e. construct system development and empathic motivation) significantly related to students' beliefs about the medical interview context?
2. Are medical students' social perception processes significantly related to their use of person-centered communicative strategies in medical contexts? Are students' beliefs about the medical interview context significantly related to their use of person-centered communicative strategies in medical contexts?
3. To what extent are medical students' social perception processes and context-relevant beliefs significant predictors of person-centered communicative strategies in medical contexts?

METHOD

Subjects

Participants in the study were forty-six first year medical students (27 males, 19 females) enrolled in the medical school of a southern university. Subjects ranged in age from 22 to 34 years (mean age was 25). All subjects volunteered to participate in the three-part study. However, since four subjects did not complete all of the experimental tasks, sample sizes vary slightly across

statistical analyses.

General Procedures

The research involved three phases.² First the medical students were interviewed by three female, trained experimenters on a series of structured tasks that assessed the character of student's constructs for perceiving people and the person-centeredness of their communication in situations frequently faced with patients. All of the tasks were counterbalanced across the audio-taped interviews, which averaged thirty-five minutes in length. After the interviews subjects completed a mail questionnaire, which assessed subjects' attitudes about the medical interview and their level of empathic motivation. In the final phase of the research each student interviewed a recently admitted patient at the university hospital. Students were instructed to isolate the patient's present condition and find out the patient's medical history, family medical history, current treatment and facts about the patient's personal life-style. The interviews, which were videotaped with the agreement of the patients, averaged thirty-five minutes in length. Specific tasks and measures relevant to the research questions are described below.

Tasks

Role Category Questionnaire. Subjects were administered the Role Category Questionnaire, a task designed by Crockett (1965) to measure interpersonal construct system development. In this task subjects are asked to describe two self-selected peers, one

liked and one disliked. Subjects were encouraged to state everything both liked and disliked about each of their peers.

Empathic Motivation Questionnaire. As part of the mail questionnaire subjects completed an abridged version of an empathy scale developed by Mehrabian and Epstein (1972). Subjects completed twenty items of the original thirty-three item scale; only twenty items of the scale were administered in an effort to shorten the scale.

Beliefs about The Medical Interview. As part of the mail questionnaire subjects responded to a series of questions concerning their beliefs about the medical interview. The questions included: (1) "What do you believe is the purpose of the medical interview?" and (2) "How would you define the role of yourself as physician in the medical interview?" Subjects were encouraged to use as much written space as they thought was necessary to answer each question.

Communication Tasks. In the oral interviews subjects were presented with hypothetical, but realistic representations of medical encounters. Four hypothetical situations were developed for the study; two situations had subjects regulate a patient's behavior and two situations had subjects advise a distressed patient. In one regulative situation subjects were asked to recommend a particular diet to an overweight patient with a high cholesterol level. The patient has ignored previous advice to diet. In a second regulative situation, subjects were given a situation similar to the one just described except that the subject was told the patient also possesses

a very low self-concept (i.e., the patient has always felt insecure, unattractive and generally unaccepted). In the advisory situations, subjects were asked to talk to a patient who suspects that a family member has a serious drinking problem. The patient is worried and does not know what to do. Subjects were asked to provide help and information to the patient. In another advisory situation subjects were presented with a situation similar to the one just described except that the subject is also told the patient feels partially responsible and consequently guilty for the family member's drinking problem. Again, subjects were asked what help and information they would provide the patient.

Because of time constraints subjects were only presented with two situations: one randomly selected regulative situation and one randomly selected advisory situation. Subjects were instructed to tell the interviewer what they would specifically say in each situation. Subjects were instructed to avoid saying what they would say or do, but rather to "say the words just as though you were engaged in actual conversation." After subjects gave their messages, they were probed for any additional comments they would make to their patients.

Subjects' responses to hypothetical communication situations have been found to approximate responses made by the same subjects in naturally occurring contexts (e.g., Applegate, 1978; 1980a; 1980b). The ecological validity of the specific situations used in this study was further determined in two ways. Initially hospital staff

who taught a communication skills training course for medical personnel found them to be realistic. Then the situations were pretested with 22 undergraduate students pursuing health-related majors who were also enrolled at the same university. Students thought that at some point in their careers they were likely to find themselves in each of the four situations (using a 1-7 point scale with its end points defined as very unlikely and very likely, mean scale ratings were 5.4, 4.7, 4.7 and 4.5).

Medical Interview. As part of a required first year medical school class designed to expose students to the broader issues they will face as physicians, subjects were required to interview an admitted patient at the university hospital. As stated before, all patients voluntarily agreed to be taped during the interviews. The purpose of the interview was for the students to gain information about the patient's present condition and life-style. All interviews were video-taped in the patient's hospital room by trained medical-media personnel.

Measures

Construct System Abstractness. Subjects' person descriptions generated by the Role Category Questionnaire were content analyzed for their relative degree of abstractness. Each non-repeated attribute contained in the descriptions was coded within a four level hierarchy developed by the second researcher (Kline, 1982). Attributes coded at level one of the hierarchy were primarily physical attributes (e.g., "she's tall and blonde"); attributes coded at level two were specific roles, behaviors, interests or beliefs (e.g., "she's a student and doesn't party"); attributes coded at level three were general

beliefs or interests (e.g., "she's athletic and liberal"); and attributes coded at level four were dispositional or motivational characteristics (e.g., "she's generous and caring"). Versions of this coding system have been found to possess construct validity (e.g., Applegate, 1978; Borden, 1979; Burleson, 1981; Delia, Clark & Switzer, 1974).

The attributes contained in the peer descriptions were each scored and summed to form a general index of construct system abstractness.³ Scores ranged from 59 to 201 ($M = 101.28$; $S.D. = 29.28$). Reliability was obtained by two independent coders on twenty percent of the protocols and was found to be .98 by Pearson correlation.

Empathic Motivation. The abridged version of Mehrabian and Epstein's empathy scale was scored according to their stated procedures (Mehrabian and Epstein, 1972). Summed scores ranged from 65 to 99, with a mean of 84.10 and standard deviation of 7.63.

Contextual Beliefs. Subjects' responses to the two questions concerning their beliefs about the medical interview were scored individually. Responses concerning the role of the physician in the medical interview were scored for the number of discrete activities, intentions or attitudes attributed to the role of the physician in the medical interview. The total number was taken as the quantitative score for each subject; resulting scores ranged from 1 to 8 ($M = 3.63$; $S.D. = 1.97$). Reliability was achieved by two independent coders scoring twenty percent of the protocols; the resulting Pearson correlation was .93.

Subjects' responses to the question concerning the purpose of the medical interview were scored in a similar fashion. Each response was given a quantitative score by computing the number of specific or general goals or intentions the subject mentioned as the purpose of the medical interview. Scores ranged from 1 to 8 with a mean of 2.74 and standard deviation of 1.74. Reliability of 100 percent exact agreement was reached between two independent coders scoring twenty percent of the protocols.

Person-Centered Communication. Subject responses to the two communication situations were scored using modified versions of the coding systems developed by Applegate (1978; 1980). Applegate used Basil Bernstein's theoretical work on person-centered and position-centered forms of speech to construct two coding hierarchies (Bernstein, 1971; 1974). Our coding hierarchies also employ Bernstein's distinction. Each hierarchy is composed of three major levels with three sublevels nested within each of the major levels. At the first major level of each coding hierarchy the communicative strategies reflect the subsumption of the patient's individuality within the normative expectations, roles and status differences implicit in the physician-patient relationship. At the second major level the communicative strategies imply recognition of the individual feelings, beliefs and motivations of the patient. At the third major level the strategies integrate acknowledgement and elaboration of the patient's individual perspective with pursuit of the institutionally prescribed agenda in the situation. A description of the coding systems, with examples, is contained in Table 1.

(Table 1 about here)

We scored the medical students' responses to each regulative and advisory situation for the dominant level of response.

Applegate has provided initial validity for coding systems similar to the ones presented above (Applegate, 1978). Reliability was computed on twenty percent of the protocols by two independent coders; the resulting Pearson correlations were .93 for the regulative message codings and .06 for the advisory message codings.

Preliminary analyses of subjects' messages ^{revealed} revealed no significant differences in response level in the two regulative communication situations ($t = .27$, $df = 45$, $p < .01$) or in the advisory situations ($t = .03$, $df = 45$, $p < .10$). So as to increase sample sizes the responses given in the two regulative situations were combined to form an overall regulative communication index; similar procedures were followed for the responses given in the two advisory situations. These overall communication indexes were used as dependent measures in the study.

Person-Centered Communication - Medical Interview. Each subjects' medical interview was initially scored for the number of discrete topics covered during the interviews. These topics were scored chronologically so that specific or general topics, if returned to, would be scored as many times as they were discussed. Each subject was given a total number of topics score; resulting scores ranged from 11 to 36 ($Mn = 21.48$; $S.D. = 6.45$). Reliability was reached by two independent coders scoring twenty percent of the protocols resulting in a Pearson correlation.

Each topic segment of each subject's interview was then scored using a modified version of the coding system used for the hypothetical communication situations. Specifically, each topic segment was scored for the dominant level of response using the informational appeal system described in Table I. Subjects' responses on each

topic were scored, summed and divided by the total number of topics in the interview, resulting in dominant level scores that ranged from 4.25 to 7.75 ($M = 5.70$; $S.D. = 0.61$). Two coders scoring twenty percent of the protocols reached an interrater reliability of .88, as assessed by Pearson correlation.

Summary. To summarize, this study investigated the relationship between seven measures. The following four measures assessed the medical students' social perception processes and context-relevant beliefs: construct system abstractness, empathic motivation, differentiation of beliefs about the purpose of the medical interview and differentiation of beliefs about the physician's role in the interview. The remaining three measures assessed the person-centeredness of medical students' communication with patients in regulative contexts, interpersonal contexts and an information-gaining context.

RESULTS

The first research question posed in this study is whether medical students' social perception processes are related to their beliefs about the medical interview context. Table II presents intercorrelations of the measures of social perception processes and context-relevant beliefs.

(Table II about here)

It should first be noted that construct system abstractness and empathic motivation are not related ($r = .12$, ns). This finding is similar to Burleson's (1981), who has also reported no significant relationship between construct system abstractness and empathic motivation. However, inspection of Table II reveals that construct system abstractness is significantly correlated with differentiation of beliefs about the physician's role in the medical interview ($r = .31$, $p < .05$) and the interview's purpose ($r = .40$, $p < .01$). Empathic motivation is also moderately related to beliefs about the physician's role in the interview ($r = .34$, $p < .01$) but not related to beliefs about the interview's purpose ($r = .20$, ns). Thus it appears that construct system abstractness is consistently related to the differentiation of beliefs about the medical context, whereas empathic motivation is not. The significant correlations, however, are only of moderate levels of magnitude.

The second research question posed on this study is whether medical students' social perception processes and beliefs about the medical interview context are related to students' communicative

abilities. Table III presents the correlations between measures of social perception processes, context-relevant beliefs and person-centered communication.

(Table III about here)

Inspection of Table III reveals that construct system abstractness is significantly related to person-centered communication in all three contexts investigated. Specifically construct system abstractness is moderately related to the use of person-centered communicative strategies in contexts where the goal is to regulate a patient's behavior, advise a distressed patient or solicit information from a patient (r s were .43, .57 and .54 $p < .01$, respectively). These correlations are similar to those of past researchers (e.g., Applegate, 1978; Delia, Kline & Burleson, 1979).

Not as strong or consistent relationships were found for empathic motivation and measures of person-centered communication. Empathic motivation was moderately related to person-centered communication in the regulative contexts ($r = .39$, $p < .01$), nearly correlated in the interpersonal contexts ($r = .24$, $p < .10$), and not correlated in the informational context ($r = .11$, ns).

Finally, inspection of Table II reveals that beliefs about the purpose of the medical interview and of the physician's role in the interview are both moderately related to measures of person-centered communication (r s ranged from .21 to .44). Beliefs about the physician's role appear to be related to person-centered

communication at somewhat higher and more consistent levels of magnitude (r s ranged from .31 to .44) than beliefs about the interview's purpose (r s ranged from .21 to .26).

In summary, then, it appears that both construct system abstractness and students' beliefs about the physician's role in the medical interview are positively correlated with person-centered communication in all three contexts investigated. Empathic motivation and students' beliefs about the medical interview's purpose appear also to be positively correlated with person-centered communication, although not consistently so across the contexts investigated.

The third research question posed in this study concerns the extent to which medical students' social perception processes and context-relevant beliefs are significant predictors of person centered communicative strategies. A series of multiple regression analyses was carried out to assess the combined influence of construct abstractness, empathy and context-relevant beliefs on person-centered communication. The variables were entered into each regression analysis simultaneously, as there was no conceptual basis for hierarchically ordering them. The resulting multiple correlations were significant on level of person-centered communication in the regulative contexts ($R = .66$, $R^2 = .32$, $F(4,35) = 4.20$, $p < .01$); interpersonal contexts ($R = .66$, $R^2 = .44$, $F(4,35) = 6.86$, $p < .001$); and in the informational interview context ($R = .60$, $R^2 = .36$, $F(3,34) = 6.31$, $p < .01$). However, in each analysis the significant predictors were different. Construct

abstractness and empathy were significant predictors in the use of person-centered regulative strategies ($b = .37$, $t = 2.21$, $p < .05$ and $b = .35$, $t = 2.00$, $p < .05$, respectively). Construct abstractness and role differentiation were significant predictors in the use of person-centered advisory strategies ($b = .60$, $t = 3.90$, $p < .001$ and $b = .32$, $t = 2.12$, $p < .05$, respectively). Construct abstractness was the only predictor of person-centered interviewing strategies ($b = .60$, $t = 3.51$, $p < .001$). As a predictor, construct abstractness uniquely explained 10 percent of the variance in level of regulative strategies (semi-partial $r = .31$), 24 percent of the variance in level of advisory strategies (semi-partial $r = .49$) and 23 percent of the variance level of interviewing strategies (semi-partial $r = .48$). Empathy uniquely explained 8 percent of the variance in level of regulative strategies (semi-partial $r = .28$) and role differentiation uniquely explained 7 percent of the variance in level of advisory strategies (semi-partial $r = .27$). Across all three behavioral contexts the interaction effect of the predictor variables on person-centered communication was not significant predictor of each criterion.

DISCUSSION

The preceding correlational and regression analyses lend support to our analysis of the relationship between social perception processes, person-centered communication and the mediating factors of empathy and context-relevant beliefs. Person-centered communication appears to be consistently related to medical students' ability to construe the dispositional and motivational characteristics of their patients. It appears that when the medical practitioner's goal is to regulate, advise or solicit information from a patient, practitioners with more sophisticated interpersonal construct systems are more likely to be able to conceive the patient's perspective and use it in formulating patient-centered communicative strategies. When the communicative task becomes more complex than simply obtaining information from patients, additional processes became important in predicting the use of person-centered strategies. Results of our regression analyses suggest that when the goal is to regulate the behavior of a non-compliant patient, possession of an empathic disposition, in addition to an abstract construct system, increases the likelihood of using person-centered strategies. When the goal is to advise a distressed patient, possession of a differentiated view of the physician's role along with an abstract construct system increases the likelihood of employing person-centered strategies. Thus it appears that the quality of medical students' interpersonal perceptions, empathic

motivation and beliefs about the medical interview are differentially predictive of the level of person-centered communication in medical students.

We believe these research findings have implications for the training of medical personnel. Instructional programs designed to acquaint medical students in methods of understanding patient needs medical situations and the physician's role in medical situations may encourage medical students to think of, and perhaps use, patient-adapted communicative strategies. Medical students who are locked into rigid perceptions of their patients and of their own roles may find themselves constrained within the perceptions of their communicative alternatives. If instructional programs can alter these rigid definitions in such a way as to create a more complex understanding of medical situations, then patient-adapted strategies may be more frequently adopted by medical students.

As we have discussed earlier, patients' satisfaction with medical care becomes rather low when they feel they are not treated with "warmth and genuineness." Patients may indeed recognize physicians who are "programmed to react to a broad and loosely defined group called "patients" rather than be individually sensitive to the needs of a specific patient on a specific occasion. Instructional programs, while increasing a multi-dimensional understanding of patients, self and situation, may also encourage physicians to think in more precise terms about their patients, their personal role and the situation in order to make informed communicative choices. This may result in more effective and satisfying care for patients. Of course all these

suggestions must be verified in future research, as our study did not determine whether training medical students in social perception processes actually improves their communicative abilities.

We also recommend that future research investigate the relationship between social perception processes, person-centered communication and physician effectiveness. After integrating our findings with other research on communicative effectiveness, one could argue that physicians who construe their patients in diverse ways and who use person-centered communicative strategies may be the physicians who are more effective with patients. It is up to future research to determine whether physicians adopting a person-centered orientation to patients will make decisions that are well-informed, well-received, and generally effective.

Finally, in light of the medical communication research earlier summarized it appears crucial for medical educators to become concerned not only with teaching medical students communication skills but also with evaluating the long-term effectiveness of these skills (Engler, et al., 1981). Future research must determine how medical students can be encouraged to continue using their sophisticated communicative skills. Our research suggests that instruction in social perception processes may indeed be a valuable and needed instructional technique.

Developing students' potential to think in specified and flexible ways about the medical tasks to be accomplished and those involved in the task may lead to more sensitive and more effective interactions with patients. It is up to future research to investigate the adequacy of these pedagogical suggestions.

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TABLE I

Coding Systems for Person-Centered Communication

- I. Denial of Individual Perspectives. At this major level the medical practitioner discusses the patient, other involved parties, the situation, or the normative beliefs of the medical context in ways that criticize or disregard the patient's feelings, beliefs, motivations or actions.

Regulative Appeals

1. Speaker coerces the patient (e.g., threats or verbal punishment, "If you don't begin to comply with the diet you're gonna die fairly soon.")
2. Speaker demands the patient modify behavior (e.g., commands or challenges, "I have discussed this in the past and I want you to work out a solution to this problem.").
3. Speaker advocates rules for desired behavior (e.g., discusses rules relevant to the situation or behavior, "The only way we can change this is by changing your diet.").

Interpersonal Appeals

1. Speaker condemns the patient's feelings (e.g., explicit criticism or verbal punishment, "If you continue to worry about it, your health could decline further and you may need to be hospitalized.").
2. Speaker challenges the legitimacy of the patient's feelings (e.g., claims that feelings are unwarranted or unfair, "What we need to do now is to bring in professionals to replace you, ones that are not going to take it home with them.").
3. Speaker ignores the patient's feelings (e.g., advises patient how to feel or act, "If your family member does these things I just mentioned, you should tell him to come to see me.").

Informational Appeals

1. Speaker requests or conveys information in ways that condemns the patient's viewpoint or actions (e.g., critical requests, "Don't you think you're being silly to put off this operation?").
2. Speaker requests or conveys information that challenges the legitimacy of the patient's viewpoint or actions (e.g., "I don't understand how you can be afraid; this is a simple procedure.").
3. Speaker disregards patient's viewpoint or actions in requesting or conveying information that is not elaborated or does not encourage elaboration (e.g., speaker shifts focus of discussion after asking patient about his concerns.)

II. Implicit Recognition of Individual Perspectives. At this major level the medical practitioner implicitly displays an understanding of the patient's feelings, beliefs, motivations and actions or those of others involved, and recognizes the patient's reasoning ability and autonomy in regulating, advising, questioning or informing the patient.

Regulative Appeals

4. Speaker offers unelaborated reasons to patient for modifying behavior (e.g., statements of consequences, "People with high cholesterol are more prone to cardiovascular problems, so I'd really like you to think about going on a diet.").
5. Speaker offers elaborated rationale to patient for modifying behavior (e.g., multiple statements of consequences or explanations for why the consequences are likely, "Exercise can improve the way you feel about your body and you can get to know your body better and it raises your energy level.").
6. Speaker provides non-feeling centered explanations of what constitutes appropriate behavior in the specific situation (e.g., discusses general principles of behavior, "But I realize and I hope you realize that the only person who is gonna make this change or this adjustment is you.").

Interpersonal Appeals

4. Speaker attempts to divert the patient's attention from the feelings present in the situation (e.g., offers compensations, other interpretations, or methods of repair, "I don't think you have to worry, since we are very close friends. I don't think it's because of a home situation, but a lot of outside factors.").
5. Speaker anticipates or minimally acknowledges the patient's feelings, but does not explicitly discuss those feelings or their causes (e.g., "How has the drinking affected you and your work and how have you related to your other family members? Have the children had any problems? Oh, I'm glad.").
6. Speaker provides non-feeling centered explanations relevant to the specific situation as the basis for advice (e.g., discusses generalized social knowledge, "Alcoholism affects more people than any other disease--a common thing--and it makes them realize funny things.").

Informational Appeals

4. Speaker seeks or provides information that minimally specifies a context for understanding (e.g. confirms known information or requests details on prescribed topics, "I'd like you to tell me a little bit about your visit to the hospital; just tell me why you came to this hospital and what you've done since you've been here.").
5. Speaker seeks or provides information that elaborates a context for understanding and which anticipates the patient's viewpoint (e.g., "Why don't you tell me a little bit about why you're here and what brought you here....So there's a spot on your lung and they don't know what it is?...Like, and X-ray?...I see...Was that in Kentucky?").
6. Speaker seeks or provides non-feeling centered explanations relevant to the specific situation as the basis for understanding the patient (e.g., "Why don't you just ask the doctors?...Why is that?").

- III. Explicit Recognition of Individual Perspectives. At this major level the medical practitioner explicitly acknowledges and elaborates upon the patient's feelings, beliefs, motivations and actions or those of others involved in the situation. At this level the medical practitioner integrates a differentiated understanding of the patient's viewpoint and actions with an understanding of the medical situation as a basis for regulating, advising, questioning or informing the patient.

Regulative Appeals

7. Speaker uses a truncated explanation of the viewpoints involved as the basis for modifying behavior (e.g., "Yes, I think it's difficult to change your eating habits but sometimes it's very necessary...I'd like to go over this diet with you and tell you why we're cutting out certain things.").
8. Speaker uses elaborated explanations of the viewpoints involved and/or explanations for why the viewpoints are a reason to modify behavior (e.g., "I know you've had a problem in the past of not being able to stay on the diet and it's hard, and I understand. But we have to think about your health and your future and exactly what you want for yourself.").

Interpersonal Appeals

7. Speaker uses a truncated explanation of the feelings involved as a basis for advice (e.g., simple reassurances, "I can see that you're run down and are worried about your husband.").
8. Speaker uses an elaborated explanation of the feelings involved as the basis for advice (e.g., "First of all you have to realize that alcoholics are very good at guilt trips and that if this person does have a drinking problems, you may feel like it's your fault but it's really not. It's that alcoholism is a disease that's caused by a lot of factors. You have not driven this person to alcoholism.").

Informational Appeals

7. Speaker seeks or provides a truncated explanation of the viewpoints involved as the basis for understanding the patient's states and motivations (e.g., "You've turned something unfortunate into a real growth experience.").
8. Speaker seeks or provides an elaborated explanation of the viewpoints involved as the basis for understanding the patient's states and motivations (e.g., "How do you feel about all of this?...Does it make you anxious?...Does it bother you? Does it hurt or is it just uncomfortable? I can just imagine how it feels.").

Regulative Appeals

9. Speaker helps the patient gain perspective on him/herself, involved others, or the situation in order to understand the reasons for modifying behavior (e.g., "Look at yourself in the mirror now and say, O.K., this is how I am now, but as you start losing weight, just look at yourself and see the difference and start feeling good about yourself. If you sit here and assess all the things that are good, and the things that are bad, I bet the column of good things outweigh the column with the bad.").

Interpersonal Appeals

9. Speaker explicitly encourages the patient to gain perspective on his/her own feelings and to relate them to others involved or to the broader context as the basis for advice (e.g., "I know you're concerned, and when you're concerned, about somebody other than yourself, it's almost worse than something wrong with you because if it's wrong with you, you can fix it, but if it's somebody else, your hands are tied. I run into that problem all the time as a physician so what I would suggest is that we explore different areas.").

Informational Appeals

9. Speaker requests or conveys information that helps the patient gain perspective on him/herself and to relate his/her viewpoint and actions to others or to the broader context (e.g., "When is your baby due, when's the due-date? February 24th. Other than the problems you're having now, has the pregnancy been uneventful? You mention you have two other children so I guess you're used to the feelings....Well, if it makes your husband feel any better, my Dad and I did the exact same thing this summer.... so tell your husband not to beel bad, even entering medical students can read temperatures wrong.").

TABLE II

Intercorrelations of Social Perception
Processes and Context-Relevant Beliefs

Variable	1	2	3	4
1. Construct System Abstractness	--			
2. Empathic Motivation	.12	--		
3. Beliefs about interview Purpose	.40**	.20	--	
4. Beliefs about Physician's Role	.31*	.34*	.42**	--

Note: Ns range from 40-46. Subscripts denote the following: *** = $p < .001$; ** = $p < .01$; * = $p < .05$.

TABLE III

Correlations of Social Perception Processes and
Context-Relevant Beliefs with Measures of
Person-Centered Communication

Person-Centered Communication	Construct System Abstractness	Empathic Motivation	Beliefs About Interview Purpose	Beliefs About Physician's Role
1. Regulative Context	.43***	.39**	.26*	.37**
2. Interpersonal Context	.57***	.24#	.21#	.44**
3. Informational Context	.54***	.11	.26*	.31*

Note: Ns range from 40-46. Subscripts denote the following: *** = $p < .001$; ** = $p < .01$;
* = $p < .05$; # = $p < .10$.

FOOTNOTES

¹A position-centered orientation is similar to the models of the physician-patient relationship that Szasz and Hollender (1975) call activity-passivity and guidance-cooperation.

²A more detailed presentation of the methods and results of this investigation is given in Janet M. Ceropski, An investigation of the relationship between social perception processes and person-centered communication in medical students, Masters thesis, University of North Carolina at Chapel Hill, in preparation.

³It should be noted that this measure of construct system development conflates two construct system properties, the number of constructs with their relative degree of abstractness. Since we wanted to employ a general measure of construct system development and since we were not interested in examining the differential influence of these construct system properties on level of adaptive communication, we decided to employ a summed rather than a mean abstractness score as the general measure of construct system abstractness.